

1/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--HIGH PRESSURE SCALE -U-  
AUTHOR--(04)-VERESHCHANGIN, L.F., SEMERCHAN, A.A., KUZIN, N.N., SADKOV,  
YU.A.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKADE. NAUK SSSR 1970, 191(3), 557-60  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, PHYSICS  
TOPIC TAGS--HIGH PRESSURE EFFECT, BISMUTH ALLOY, LEAD ALLOY, IRON ALLOY,  
COBALT CONTAINING ALLOY, ELECTRIC RESISTANCE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3001/0565 STEP NO--UR/0020/70/191/003/0557/0560  
CIRC ACCESSION NO--AT0126312  
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0126312

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE DEPENDENCE OF THE ELEC.  
RESISTANCE ON PRESSURE, P, OF BI AND PB, BI AND FE PLUS 5PERCENT CO, AND  
PB AND FE PLUS 5PERCENT CO WAS DETD. P FOR THE TRANSITION OF FE PLUS  
5PERCENT CO ON THE 1968 SCALE WAS 145 PLUS OR MINUS 5, ON THE SCALE OF  
LOREE, ET AL. (1966) IT WAS 140, WHEREAS ON THE BUNDY SCALE (1967) IT  
WAS 165 KILOBARS.

UNCLASSIFIED

USSR

UDC 632.952:633.378

SADKOVSKAYA, L. A., Ternopol' Experimental Station

"Use of Fungicides With an Immunizing Action Against Ascochyttosis of Peas"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 5, May 70, pp 29-31

Abstract: Ascochyttosis caused by Aschochyta pinodes Jones and A. pisi Lib. is the disease of peas which damages this crop to the greatest extent in Ternopol' Oblast'. It was established during the past few years that derivatives of dithiocarbamic acid, on being applied for the treatment of seed, immunize plants against this disease. In field tests that were conducted at the Ternopol' Experimental Station pea plants were sprayed with a 2% suspension of TMDT or a 1% suspension of "tsineb" (Zn salt of ethylene-bis-dithiocarbamic acid). Two sprayings of a pea crop with either fungicide (before and after flowering of the plants) and use of seeds treated with TMDT 10-12 days before planting suppressed the development of ascochyttosis considerably not only in the year in which the sprayings were carried out, but also in the following year. Spraying with TMDT was more effective than that with "tsineb."

1/1

- 96 -

USSR

UDC 58.004.12:632.4

SANIN, S. S., SADKOVSKIY, V. T., and BLAGODEROV, N. V., North Caucasian Scientific Research Institute of Plant Pathology, Krasnodar

"A Device for Trapping Fungus Spores in the Air"

Leningrad, Mikologiya i Fitopatologiya, No 5, 1971, pp 464-466

Abstract: The device designed by the authors consists of a rod with a vane attached at one end and two sidepieces 70 mm apart at the other end. Several slides coated with vaseline are inserted into grooves on the sidepieces. Above the latter is a shield to protect the surface of the slides from rain and direct sunlight. The rod, sidepieces, and vane rotate on a pivot set in a vertical stand. The device can be used not only to establish whether spores are present in the air, but also to determine the average daily concentration of spores, is calculated from the equation

$$C = 0.046 \frac{N}{v},$$

where C is the average daily concentration of spores in the air, N is the total number of spores on 4 slides, and v is the average daily wind velocity (m/sec). Tests of the device showed its trapping capacity to be 3.4 to 4 times greater than that of the ordinary vane-type apparatus and 7 to 12 times more sensitive on rainy days.

1/1

- 22 -

1/2 018 UNCLASSIFIED PROCESSING DATE--23GCT70  
TITLE--THE EFFECT ON THE SKIN OF DISODIUM SALTS OF SULFOSUCCINIC ACID -U-  
AUTHOR--(02)-VOLODCHENKO, V.A., SADOKHA, YE.R. S  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 5, PP 63-65  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SURFACE ACTIVE AGENT, DERMATITIS, SODIUM COMPOUND, ORGANIC  
SULFUR COMPOUND, SUCCINATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1998/2049 STEP NO--UR/0206/70/000/005/0063/0065  
CIRC ACCESSION NO--AP0122278  
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0122278

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. WASHING SUBSTANCES PREPARED ON THE BASIS OF SURFACE ACTIVE COMPOUNDS HAVE FOUND WIDE APPLICATION IN INDUSTRY AND PRIVATE LIFE. AS A RULE, THEY ARE COMPLEX CHEMICAL COMPOSITIONS REQUIRING BIOLOGICAL EVALUATION. IN THE PRESENT WORK, THE EFFECT ON THE SKIN OF TWO NEW KINDS OF WASHING SUBSTANCES (DISODIUM SALTS OF SULFOSUCCINIC ACID), PREPARED ON THE BASE OF ALCOHOLS FROM SPERM WHALE FAT (DHC A) AND A MIXTURE OF THESE ALCOHOLS WITH ALKYLOLAMIDES OF FATTY ACIDS (DHC AK), WAS STUDIED. THE RESULTS OF THE STUDY INDICATED THAT DHC A AND DHC AK COULD BE USED IN THE COMPOSITIONS OF WASHING SUBSTANCES IN CONCENTRATIONS NOT EXCEEDING 10PERCENT. INCREASE OF THE CONCENTRATION OF THESE COMPONENTS IN WASHING SUBSTANCES UP TO 50PERCENT MAY RESULT IN DEVELOPMENT OF DERMATITIS.  
FACILITY: LABORATORIYA PRMYSHLENNY TOKSIKOLOGII KHAR\*KOVSKOGO INSTITUTA GIGIYENY TRUDA I PROFZABOLEVANIY.

UNCLASSIFIED

USSR

UDC 621.78.01.4-06

S  
VIL'YANS, O. S., Candidate of Technical Sciences, BOL'SHOVA, M. M., Engineer,  
SADOKOVA, T. G., Engineer, and SIGAL, T. L., Engineer, Nikopol' Southern Pipe  
Plant

"Effect of Vacuum Heat Treatment on the Grain Size and Properties of Pipes Made  
of Austenitic Steel"

Moscow, Stal', No 10, Oct 70, pp 938-941

Abstract: During heating of Kh18N10T, Kh18N9, and EI847 austenitic steels in a vacuum furnace at a residual pressure of  $10^{-3}$  mm Hg the process of recrystallization occurs at temperatures 100 degrees lower than during heating in an ordinary electric furnace in an air atmosphere. Vacuum-furnace-heated steel possesses large-grain structure and higher ductility than that of ordinary-furnace-heated steel, and also higher density. The intensive growth of grain during heating of steel in vacuum can be explained by the accelerated diffusion of carbide and carbonitride phases and degassing of the metal, and also, apparently, by the intensification of diffusion movement of atoms, vacancies, and dislocations. The vacuum heat treatment of pipes at temperature of 900° C (instead of 1000° C under ordinary conditions) was tested under production conditions and produced good results.

1/1

USSR

UDC: 8.74

PETROV, V. I., SADOMOV, Yu. B., editorial staff of "Avtomatika i vychisl. tekhn.", Academy of Sciences of the Latvian SSR

"Model of the System Comprised by a Human Operator and a Production Recorder"

Riga, Model' sistemy chelovek-operator--registrator proizvodstva (cf. English above), 1973, 12 pp ill. bibl. 3 titles (manuscript deposited in VINITI 16 Feb 73, No 5475-73 Dep.) (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V641 DEP by the authors)

Translation: The degree of information distortion by existing peripheral systems for conversion, and by data processing systems is such that the probability of error in handling operational production control systems is still fairly high. In this connection, the principal share of errors falls to the peripheral systems for gathering primary information and transcribing it onto computer media. The statistical model of a peripheral system with generalized hardware takes account of the main stages of formation and transcription of information on the computer medium. The time for conversion of each number of the variable information, time

1/2



USSR

PETROV, V. I., SADOV, Yu. B., Model' sistemy chelovek-operator—registrator proizvodstva, 1973, No 5475-73 Dep.

expenditures on document conversion in the case of absence or presence of a detected error, and the probabilities of trouble-free operation of the input and output devices of the production recorder are realized in the algorithm in accordance with conventional expressions. Failures of the human operator, keyboard and other devices, and also the frequencies of error detection are assigned by a frequency matrix.

The results of realization of the model of a peripheral system on a universal digital computer showed fairly high efficacy and convenience in studying different modifications of the parameters and structures of the system.

2/2

- 49 -

USSR

UDC 621.791:539.378.052:669.14:539.3

FELIKSON, YE. I., Candidate of Technical Sciences, and SADOMTSEV, A. A., Engineers, Scientific Research Design Institute for Testing Machines, Instruments and Equipment for Measuring Mass

"Elastic Properties of the Diffusion Zone of Steel"

Moscow, Svarochnoye Proizvodstvo, no 9, Sep 70, pp 24-25

Abstract: In the fabrication of components for devices, such as measuring elastic elements, it is necessary that the elastic properties of the permanent joints have the same properties of the materials being joined. This paper deals with the elastic properties of the diffusion zone of steels and alloys designed for use in these measuring elements. Diffusion welding does not involve melting of the joined materials, and it is assumed that the weld-metal zone of similar materials such as 35KhGSA and 50KhGA steels maintains the same properties as are displayed by these materials. This study showed that 35KhGSA steel subjected to diffusion welding and then used in bend tests maintained the elastic properties of monolithic steel and was well suited for use in the permanent joints of elastic elements.

1/2

USSR

FELIKSON, YE. I., and SADOMTSEV, A. A., Svarochnoye Proizvodstvo,  
No 9, Sep 70, pp 24-25

In order to obtain low values of practical hysteresis and return elastic after-effect, the tempering of both welded and monolithic elastic elements of 35KhGSA steel must not exceed 480°C. The minimum value of direct elastic after-effect for both welded and monolithic elastic elements for 35KhGSA is achieved at a tempering temperature of 480°--550°C.

USSR

SADOSHENKO, S.

"Stress: Enemy and Helper"

Moscow, Sotsialisticheskaya Industriya, 30 Mar 73, p 4

Translation: The experiments were carried out in a chamber for testing temperature- and pressure-measuring equipment on earth. The egress from a spaceship into the vacuum was repeated. When the cosmonaut "stepped out," the instruments recorded a normal pulse rate: about 70 per minute. But here we have a cosmonaut on board a ship in flight preparing to leave the cabin. At this time his pulse increases to 130-150. Why? After all, the physical load in flight is much lower than in a chamber for testing temperature- and pressure-measuring equipment. The solution lies in emotional stress.

How Does Joy Threaten?

Alarm, joy, fear, and anxiety are all emotions. They assume various forms, both positive and negative. Scientists still argue about what to call emotional stress. Just what is it?

One does not at all have to act upon a person physically in order to elicit some emotion. Often a word, a glance, or even "eloquent silence" is sufficient for a mood to change. Physicians long ago noticed this phenomenon. People who face an operation react much more painfully to preparations than to the

USSR

SADOSHENKO, S., Sotsialisticheskaya Industriya, 30 Mar 73, p 4

operation itself. The same occurs in pilots before ejection from jet planes. The peak of emotional stress sets in not at the moment of ejection, but immediately before it. This state is called stress.

Why should it be studied? A person is alarmed, lives through an event, rejoices -- but what of it? This is why he is "homo sapiens." But under stress a person makes twice as many mistakes as under ordinary conditions.

Stress does not have only negative consequences. It may alter neurotic habits and mobilize the internal reserves of the organism.

So just what is stress: an enemy or a helper? I asked this question at the Scientific Research Institute of General and Pedagogic Psychology of the Academy of Pedagogical Sciences USSR. It turned out that no unambiguous answer can be given. Stress is both a helper and a foe. By mobilizing the organism's internal reserves it leads to "wear." In general it is, so to speak, individual. In an identical stress situation two persons may behave differently. One will work normally but the other will not. Recently a person's behavior in a stress situation has started to be taken into account in occupational selection.

At the Scientific Research Institute of General and Pedagogic Psychology I was told about such experiments. They are being carried out with dispatchers

2/7

- 64 -

USSR

SADOSHENKO, S., Sotsialisticheskaya Industriya, 30 Mar 73, p 4

and operators in a working environment. How will a person behave if the instruments suddenly start to give contradictory readings? Would he not lose self-control at a critical moment?

This is only one method that can be used to eliminate the negative consequences of stress in production, in the process of making a managerial decision, and in aviation. This is the simplest method. It does not solve the main problem: the attempt to find secrets of controlling stress in the person himself.

The Key to the Secrets

Our nervous system consists of two divisions: the central and the autonomic nervous systems. The latter regulates processes which, as was believed until recently, man cannot change at will. Is it really possible to desire to change and then to change pressure, pulse rate, and blood sugar? It turns out that it is. Yogis were ahead of their time here. The organism's stress reaction is directly connected to the activity of the autonomic nervous system.

How can we learn to control this clever foe and excellent helper? In order to control the emotions, one must first study them. They are being studied by various methods.

The experiments were carried out. External manifestations of the emotions were recorded on film. Then the subjects were asked to reproduce a corresponding

3/7

USSR

SADOSHENKO, S., Sotsialisticheskaya Industriya, 30 Mar 73, p 4

mimic picture. It turned out that a copy of a real emotion differs strongly from the original. The actor is in conflict with his role until he learns to generate in himself the emotions that are required by the course of the play.

At first glance it seems that the emotions can be "measured" by their external expression. But the same feeling is manifested differently in different people. O'Henry wrote a story in which two people are arguing: Dow and Westbrook. Dow asserts: "...no man, no woman is capable at time of emotional shock of any high-flown verbiage. They converse as always, but somewhat more incoherently." Westbrook insists on the reverse. And now both heroes learn that their wives are abandoning them. Dow delivers a pompous tirade but Westbrook just mumbles something.

The external manifestation of emotions is a quite unreliable and hard-to-measure thing. But even the physicians of antiquity -- Avicenna, Hippocrates, Galen -- noted that strong emotions lead to a change in the activity of the external organs. Respiration, pulse rate, skin temperature, the diameter of the pupils, blood pressure, the volume of the vessels, the cellular and chemical composition of the blood, and metabolism change.

Scientists now have special tables in which is shown the relation of changes in the activity of internal organs to the nature of the emotion. For  
h/7

- 65 -

USSR

SADOSHENKO, S., Sotsialisticheskaya Industriya, 30 Mar 73, p 4

instance, rage (a negative emotion) results in a faster pulse rate, a rise in overall blood pressure, expansion of pupil diameter, a reduction of rapid movements of the eyes, increased blinking, increased tension in the skeletal muscles, an increase in the noradrenaline and a reduction of adrenaline in the blood, and so on.

Nevertheless, even such a block of characteristics cannot precisely describe the manifestation of a given emotion in different people. It is necessary to seek other sources for measuring emotions in the human organism. What if we were to record directly the biocurrents of the brain of a happy, mourning, or excited person? Electroencephalography has started to study the emotions in this manner.

Dialog "With the Brain"

I walked down the long halls of the Institute of Labor Hygiene and Occupational Diseases of the Academy of Medical Sciences USSR with Candidate of Biological Sciences L. Ya. Zybkovets.

We came to Room No 113. Here very complex instruments are used to study stress. The subject sat in an easy chair. Wires extended from his head to the encephalograph. Outwardly he was calm.

The experiment started, the recorders began to run, drawing curves on a moving tape. The cortex was "speaking." One curve shows the alpha rhythm,

5/7



USSR

SADOSHENKO, S., Sotsialisticheskaya Industriya, 30 Mar 73, p 4.

another the delta rhythm. Indeed, the subject is actually excited! The fluctuation of his theta rhythm has increased. It turned out that within several hours he would have to defend his dissertation. The electroencephalograph had caught well his emotional strain. But what if the subject were now asked to solve a very simple problem?

"Some even refuse," says Lyudmilla Yakovlevna. "Not, of course, because they are unable to solve it. The influence of stress factors simply interferes. Those who do solve it make a number of mistakes."

In addition to other problems, she has to work on an analysis of the effect of stress on mental activity.

"There are many interesting problems here," says Lyudmilla Yakovlevna. "For instance, an increase in the fluctuations of the theta rhythm is often considered an indication of inhibition. A state of stress cannot at all be called inhibition. This is the reverse phenomenon. But after all, here too the activity of the theta rhythm increases."

Another fact is of interest. Under the influence of stress not the entire cortex, but only some parts are activated. Why? It seems to me that with the aid of electroencephalography we could not only detect mental-emotional strain,

6/7

- 66 -

USSR

SADOSHENKO, S., Sotsialisticheskaya Industriya, 30 Mar 73, p 4

but also determine its magnitude quite accurately.

In the summer of this year a symposium will be held in Kishinev on the problems of stress. What new information will scientists convey? What secrets of stress will be unraveled? The symposium in Kishinev will become another step in the mastering of the nature of our emotions.

7/7

1/2 010  
UNCLASSIFIED  
TITLE--DYEING CELLULOSE FIBERS WITH FIBER REACTIVE DYES. ANALYSIS OF  
KINETIC EQUATIONS -U-  
AUTHOR--(03)-SADOV, E.I., KRICHEVSKIY, G.YE., MOVSHOVICH, I.M.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., TEKHNOL. TEKST. PROM. 1970, (1), 76-80  
DATE PUBLISHED--70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--KINETIC EQUATION, DYE, CELLULOSE RESIN, DIFFUSION COEFFICIENT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/0946  
CIRC ACCESSION NO--AP0124606  
STEP NO--UR/0324/70/000/001/0076/0080  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--300CT70

2/2 010  
CIRC ACCESSION NO--AP0124606

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE KINETICS OF DYEING CELULOSE FIBERS WITH FIBER REACTIVE DYES DEPEND ON THE EFFECTIVE DYE PENETRATION DEPTH (L); L EQUALS (D OVER K) PRIME TO THE POWER OF 0.5 (D IS THE DYE DIFFUSION COEFF. IN THE FIBER AND K IS THE RATE CONST. OF THE DYE FIBER REACTION). THE VALUES OF L DET. THE KINETIC REGION OF DYEING (TIME DEPENDENT, DIFFUSION RATE CONTROLLED, OR TRANSITIONAL).  
MOSCOW, USSR.

FACILITY: MOSK. TEKST. INST.,

UNCLASSIFIED

1/2 011  
UNCLASSIFIED  
TITLE--PRINTING OF COTTON LAVSAN FABRIC WITH A MIXTURE OF DISPERSED AND  
ACTIVE DYES -U-  
AUTHOR--(03)--SADOV, F.I., SOKOLOVA, N.M., SOROKINA, M.G.  
PROCESSING DATE--04DEC70  
COUNTRY OF INFO--USSR  
SOURCE--TEKST. PROM. (MOSCOW) 1970, 30(2), 47-50  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--DYE, NATURAL FIBER, POLYESTER RESIN, FABRIC, POLYETHYLENE  
TEREPHTHALATE  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3008/0915  
STEP NO--UR/0342/70/030/002/0047/0050  
CIRC ACCESSION NO--AP0137943  
UNCLASSIFIED

2/2 011

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137943

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE OPTIMUM HEAT STABILIZATION TIME AND TEMP. ARE, RESP. 1-2 MIN AND 200DEGREES FOR COTTON POLY(ETHYLENE TEREPHTHALATE BLENDS PRINTED WITH DISPERSE BORDEAU 2S, REMAZOL RED VIOLET F, DISPERSE YELLOW Z, PROCIN BLUE ASH BS, OR PROCION YELLOW RS. IN THE CASE OF DISPERSE BLUE K THE OPTIMUM TEMP. WAS 180DEGREES. THE OPTIMUM PRINTING INK COMPN. WAS: DYE 10, UREA 50, NAHCO SUB3 15 G-KG, AND ALGINATE THICKENER. THE ADDN. OF 20 G-KG MONDALKANOLAMINE TO THE FORMULATION REDUCED THE ANNEALING TEMP. BY 10-20DEGREES. REACTIVE DYES DID NOT AFFECT DISPERSE DYE RETANTION BY THE FABRIC. HIGH RETENTION COEFFS. (LARGER THAN 0.67) INDICATE DYE MIGRATION FROM COTTON TO POLYESTER FIBERS. FACILITY: MTI, MOSCOW, USSR.

UNCLASSIFIED

1/2 018  
UNCLASSIFIED  
TITLE--ENZYMES OF THE AMYLOLYTIC COMPLEX OF ENDOMYCOPSIS STRAIN 20-9 -U-  
AUTHOR--(02)-KOLTSOVA, E.V., SADOVA, A.I.  
COUNTRY OF INFO--USSR  
SOURCE--PRIKL. BIOKHIM. MIKROBIOL. 1970, 6(1), 48-50  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--MICROORGANISM, AMYLASE, BIOSYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1998/0295  
CIRC ACCESSION NO--AP0120984  
STEP NO--UR/0411/70/006/001/0048/0050  
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120984

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AMYLOLYTIC ENZYME COMPLEX  
EXCRETED BY ENDOMYCOPSIS SPECIES STRAIN 20-9 WAS PPTD. WITH (NH SUB4)  
SUB2 SO SUB4. AT 60 AND 90PERCENT SATN. PPTS. WERE OBTAINED CONTG.,  
RESP., 54 AND 73PERCENT OF THE ALPHA AMYLASE, 64 AND 95PERCENT OF THE  
GLUCOAMYLASE, AND 8 AND 28PERCENT OF THE MALTASE ACTIVITIES.  
FACILITY: MOSCOW TECHNOL. INST. FOOD IND., MOSCOW, USSR.

UNCLASSIFIED



1/3      01C      UNCLASSIFIED      PROCESSING DATE--20NOV70  
TITLE--PYRIDAZINES. I. SYNTHESIS AND NUCLEOPHILIC SUBSTITUTION OF 3  
CHLOROMETHYLPYRIDAZINE -U-  
AUTHOR--(04)-NOVITSKIY, K.YU., SADOVAYA, N.K., KASYANOVA, YE.F., SEMINA,  
L.K.  
COUNTRY OF INFO--USSR  
SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (3), 412-14  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ORGANIC SYNTHESIS, HETEROCYCLIC NITROGEN COMPOUND, EXCHANGE  
REACTION, THIONYL CHLORIDE, AMINE, ORGANIC AZINE COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3001/0228      STEP NO--UR/0409/70/000/003/0412/0414  
CIRC ACCESSION NO--AP0126011  
UNCLASSIFIED

2/3 010

UNCLASSIFIED

PROCESSING DATE—20NOV70

CIRC ACCESSION NO--AP0126011

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TO A SOLN. OF 15 ML SOCL SUB2 IN 20 ML ANHYD. CHCL SUB3 WAS ADDED A SOLN. OF 12 G I (R EQUALS OH) IN 60 ML ANHYD. CHCL SUB3 AND THE WHOLE STIRRED 2 HR TO YIELD 81PERCENT I.HCL (R EQUALS CL) (II.HCL), M. 121-1.5DEGREES (ETOAC). THIS (3.3 G) IN 30 ML MECH WAS ADDED DROPWISE TO MECH (FROM 1.84 G NA) IN 30 ML ANHYD. MECH, AND THE WHOLE STIRRED 30 MIN AT ROOM TEMP. AND REFLUXED 4-5 HR TO YIELD 76PERCENT I (R EQUALS OME), B SUB11 114-15DEGREES, D PRIME20 1.0978 N PRIME20 SUBD 1.5077; PICRATE M. 87-8DEGREES (AQ. ETOH). SIMILARLY WAS OBTAINED 55PERCENT I (R EQUALS OET), B SUB7 108-9DEGREES, D PRIME20 1.0543, N PRIME20 SUBD 1.4990; PICRATE M. 103-4DEGREES (AQ. ETOH). TO AN EMULSION OF 0.69 G NA IN 2 ML PHME WAS ADDED DROPWISE AT 45-50DEGREES 3.3 G PHSII, STIRRING CONTINUED 4 HR, II (FROM 3.36 II.HCL) IN PHME ADDED, AND THE WHOLE HEATED 2 HR ON A BOILING WATER BATH TO YIELD 96PERCENT I (R EQUALS SPH), M. 54-5.5DEGREES (PETROLEUM ETHER); PICRATE M. 112-13DEGREES (ETOH). A MIXT. OF 2.5 G II.HCL AND 1.2 G (H SUB2 N) SUB2 CS IN 300 ML ANHYD. ME SUB2 CO WAS REFLUXED 10 HR TO YIELD 92PERCENT I (R EQUALS SC(:NH)NH SUB2.2HCL), M. 187-8DEGREES (DECOMPN.) (HEXANE MECH). THIS (2.5 G) HEATED 1 HR ON A BOILING WATER BATH WITH SATD. K SUB2 CO SUB3 SOLN. GAVE 94PERCENT I (R EQUALS SH).

UNCLASSIFIED

3/3 010

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126011

ABSTRACT/EXTRACT--II. HCL AND THE APPROPRIATE AMINE REFLUXED 3 HR IN ETHER,  
C SUB6 H SUB6 OR IN THE AMINE GAVE THE FOLLOWING I (R, B.P., MM,  
M.P.-M.P. DIPIRATE, AND PERCENT YIELD GIVEN): NE SUBT2,  
124-5DEGREES-6, MINUS, 145.5-6DEGREES (ETOH), 87; MORPHOLINO,  
130-1DEGREES-1, 56-7DEGREES, 169-70DEGREES (ETOH), 85; 1 PYRROLIDINYL,  
115DEGREES-1.5, 51-2DEGREES, 148-9DEGREES (ETOH), 96. TO A SOLN. OF  
3.25 G NACN IN 5 ML H SUB2 O ON A WATER BATH WAS ADDED 3.3 G II. HCL IN  
20 ML ETCH, AND THE WHOLE REFLUXED 1 HR TO YIELD 46PERCENT I (R EQUALS  
CN), M. 90-1DEGREES (C SUB6 H SUB6); HCL SALT M. 132-30DEGREES (ETOAC).  
THIS (I G) IN 15 ML 10PERCENT HCL HEATED 5 HR AT 60DEGREES GAVE  
100PERCENT I (R EQUALS H), M. 191-2DEGREES (ME SUB2 CO).  
FACILITY: MOSK. GOS. UNIV: IM. LCMCNOSCA, MOSCOW, USSR.

UNCLASSIFIED

USSR

SADOVICH, M. A., Engineer

UDC 691.32:620.172.21

"The Limit Tensility of Concrete With Account of Pseudoplastic Deformations"  
Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 7, Jul 73, pp 25-27

Abstract: Results are presented of determination of the limit tensility of concrete specimens in the laboratory of the Bratsk State Electric Power Plant Construction Project. Results of the research show that a) the ultimate elastic deformations of concrete depend upon the tensile strength, and may be described by a common equation both for gravel cement and for rubble cement; b) pseudoplastic deformations have a somewhat greater tendency to increase in rubble cement than in gravel cement. 4 figures. 1 table. 4 references.

1/1

USSR

UDC 693.542:666.97.022.1/5"324"

BRYUKHANOV, G. V., SADOVICH, M. A., SHAYKIN, B. V., Engineers

"Peculiarities of Technology of Application of Concrete at the Ust'-  
Ilinskaya Hydroelectric Power Plant"

Moscow, Gidrotekhnicheskoye Stroitel'stvo, No 1, Jan. 1973, pp 3-5.

Abstract: Some of the peculiarities of winter concrete operations in the construction of the Ust'-Ilinskaya Hydroelectric Power Plant are described: improvement of the technology of preparation of fillers by hydromechanization with decreased content of the fine fraction must subject to freezing, etc. Winter dry sorting of the sand-gravel mixture in combination with special hydraulic deposition is an effective means for construction in northern regions. The quality of concrete prepared in the winter with large fractions added at down to  $-10^{\circ}\text{C}$  is equal to the quality of the concrete prepared in summer. A thermal resistance of the "warm" decking of  $1.5 (\text{m}\cdot\text{hr}\cdot\text{deg})/\text{kcal}$  is sufficient to produce crack-resistant structures in winter.

1/1

USSR

UDC 517.43

SADOVNICHIIY, V. A., Chair of Function Theory and Functional Analysis

"On Some Identities for Eigenvalues of Singular Ordinary Differential Operators. Relations for Zeroes of Bessel Functions"

Moscow, Vestnik Moskovskogo Universiteta, Seriya I -- Matematika, Mekhanika, No 3, May-Jun 71, pp 77-86

Abstract: The article considers a singular ordinary differential operator on a segment of the form

$$-y'' + \frac{v^2 - 1/4}{x^2} y + p(x)y = \lambda y$$

(p(x) is assumed to be sufficiently smooth, finite in the neighborhood of

1/2

USSR

SADOVNICHYI, V. A., Vestnik Moskovskogo Universiteta, Seriya I -- Matematika, Mekhanika, No 3, May-Jun 71, pp 77-86

zero, and without singularities), finds the asymptotic behavior of the eigenvalues of one of the self-adjoint extensions (viz.  $y(l) = 0$ ) of the minimal operator given by operation (1), and then calculates sums of the form

$\sum_n [\lambda_n^k - f^k(n)], k = 0, 1, \dots$ , where  $f^k(n)$  is an expression making the written series convergent. If  $p(x) \equiv 0$  is put in these formulas, some new relations are obtained for the zeroes of Bessel functions which evidently can be used as a method for the approximate calculation of these zeroes.

2/2

- 21 -

USSR

UDC 66.074.7:546.56

LASKORIN, B. N., YUZHINA, A. D., SMIRNOVA, N. M., SADOVNIKOVA, G. I., NOVIKOV, YU. P., and VITKOVSKAYA, A. A.

"Ion Exchanging Fibers and Fabrics . III. Extraction of Gold From Cyanide Solutions and From Pulps by Means of Ion Exchanging Fabrics"

Leningrad, Radiokhimiya, Vol 15, No 2, 1973, pp 236-240

Abstract: The possibility of extracting gold from cyanide solutions and pulps obtained after leaching out the gold containing ores by means of ion exchange fabrics has been studied. The capacity for gold of the medium and strongly basic anion exchange fabrics under static conditions (0.8-1.4 mg/g) is comparable to the capacity of the granular sorbent AM (1.74 mg/g). Under identical conditions the fabrics absorb 5.6 times less admixtures than the resin AM, the rate of gold absorption being 20-30 times faster than by the resin. The fabrics are easily regenerated with hydrochloric solutions of thiourea. Under dynamics conditions 62.2% of gold is removed from the fabric by three volumes of the regenerating solution.

1/1



USSR

UDC 595.771.421/576.8.06

SAUBENNOVA, O. G., SADOVNIKOVA, T. P., DUBNITSKIY, A. M., and SINITSINA, I. P.,  
Institute of Zoology, Academy of Sciences, Kazakh SSR, Alma-Ata

"Effect of Microbial Preparations on Mosquito Larvae of the Genus Culex in  
Southeastern Kazakhstan"

Leningrad, Parazitologiya, No 3, 1973, pp 227-230

Abstract: Five microbial preparations -- entobacterin, insectin, boverin, dendrobacillin, Bac. thuringiensis exotoxin -- were tested for their insecticidal effect on Culex modestus and Culex pipiens larvae in the laboratory and under field conditions (desert, semidesert, mountain). Insectin, boverin, and dendrobacillin proved to be ineffectual both in the laboratory and in the field. Entobacterin in a 1% suspension killed 79.5% of the larvae under desert and semidesert conditions, but the high cost of the preparation is disproportionate to the results obtained. And it exhibited much lower insecticidal activity in the mountains. Bac. thuringiensis exotoxin was the most effective in laboratory experiments. At a 0.1% concentration it killed 86% of the Culex pipiens larvae. Further testing of both entobacterin and exotoxin is suggested.

1/1

- 4 -

1/2 017  
TITLE--ABSENCE OF CRYSTALLINE ORDERING IN QUANTUM SYSTEMS OF ONE DIMENSION  
-U-  
AUTHOR--(02)--SADOVNIKOV, B.I., SUDOKINA, E.M.  
COUNTRY OF INFO--USSR  
SOURCE--INDIAN J. PURE APPL. PHYS., VOL. 8, NO. 2, P. 61-3 (FEB. 1970)  
DATE PUBLISHED--FEB70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--CRYSTAL PROPERTY, QUANTUM PHYSICS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO--FD70/605029/D02 STEP NO--IN/0000/T0/008/002/0061/0063  
CIRC ACCESSION NO--AP0141715  
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--11DEC70

CIRC ACCESSION NU--AP0141715

ABSTRACT/EXTRACT--(U) GP-O-

ABSTRACT. THE PROOF FOR THE IMPOSSIBILITY OF  
CRYSTALLINE ORDERING IN ONE DIMENSIONAL QUANTUM SYSTEMS IS GIVEN ON THE  
BASIS OF N. N. BOGOLIUBOV'S INEQUALITY.

FACILITY: MOSCOW STATE  
UNIV., USSR.

UNCLASSIFIED

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--BOGOLYUBOV'S INEQUALITY IN STATISTICAL MECHANICS OF CLASSICAL  
SYSTEMS -U-  
AUTHOR-(02)-SADOVNIKOV, B.I., BUKLI, K.  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK MOSKOVSKOGO UNIV. FIZ. ASTRON. USSR, VOL. 11, NO. 1, P.  
35-42 1970  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATHEMATICAL SCIENCES, PHYSICS  
TOPIC TAGS--QUANTUM STATISTICS, GREEN FUNCTION, SPONTANEOUS MAGNETIZATION,  
MATHEMATIC MODEL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1990/1330 STEP NO--UR/0188/70/011/001/0035/0042  
CIRC ACCESSION NO--AP0109414  
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0109414

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE BOBOYLUBOV'S INEQUALITY (FOR THE SPECTRAL INTENSITY OF QUANTUM GREEN FUNCTIONS OF TEMP.) HAS BEEN USED DURING INVESTIGATIONS OF HIGHER ORDER TERMS IN QUANTUM STATISTICAL SYSTEMS. THE CLASSICAL ANALOGUE OF THIS INEQUALITY IS INTRODUCED HERE FOR TWO DIMENSIONAL GREEN FUNCTIONS AND IT IS SHOWN THAT THIS CORRESPONDS TO THE QUANTUM CASE. THE RESULTS ARE APPLIED TO THE CONSTRUCTION OF THE CLASSICAL ANALOGUE OF THE HEISENBERG'S MODEL FOR SPONTANEOUS MAGNETISATION OF ONE OR TWO DIMENSIONAL SYSTEMS.

UNCLASSIFIED

USSR

UDC 621.771.001

VLADIMIROV, V. I., SADOVNIKOV, B. V., and SMIRNOV, V. S., Leningrad

"Investigation of Aluminum Failure in Cross Rolling by the Method of Density Measuring"

Moscow, Fizika i Khimiya Obrabotki Materialov, No 1, Jan-Feb 72, pp 76-82

Abstract: The density change in cross rolling of specimens of aluminum (brand A99, All-Union State Standard 11069-64) was experimentally investigated. The results are discussed by reference to diagrams showing the density changes in cross rolling of specimens annealed at 500 and 600°C, annealed in air, and cross-rolled annealed in air. In deformations up to 2-2.2%, a density increase during rolling up to a maximum takes place. In deformations higher than 3.5-4%, a density decrease results. In a density decrease up to  $10^{-3}$  g/cm<sup>3</sup>, a healing of defects takes place. In a density change of  $\Delta \rho \approx (1-2) \cdot 10^{-3}$  g/cm<sup>3</sup>, healing can originate at the expense of plastic deformation by the action of internal residual stresses. With  $\Delta \rho = (2.5-10) \cdot 10^{-3}$  g/cm<sup>3</sup>, stable pores develop in the center of the specimen. At  $\Delta \rho > 10^{-2}$  g/cm<sup>3</sup>, the developed pore, after cessating of active deformation, grows under the action of residual stresses in direct proportion to the initial  $\Delta \rho$  and can intergrow up to the outer surface of the specimen. In combination with any

1/2

USSR

VLADIMIROV, V. I., et al., Fizika i Khimiya Obrabotki Materialov, No 1,  
Jan-Feb 72, pp 76-82

method for the determination of the number of defects, the cross rolling  
method can be used successfully for the investigation of the process of metal  
failure. Three illustrations, three formulas, 17 bibliographic references.

2/2

.. 67 ..

USSR

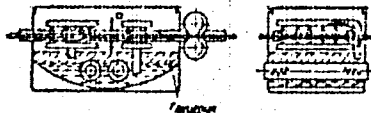
UDC: 621.3.049.75

MARKIN, N. I., SHCHERBAKOV, L. U., SOLOV'YEV, V. I., SADOVNIKOV, I. T.

"A Method of Coating Two-Sided Printed-Circuit Boards with Solder"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,  
No 10, Apr 71, Author's Certificate No 298089, Division H, filed 29 Jun 68,  
published 11 Mar 71, p 198

Translation: This Author's Certificate introduces a method of coating two-sided printed-circuit boards with solder in an inert gas atmosphere. As a distinguishing feature of the patent, the process is mechanized and the quality of the coating is improved by jet-spraying both sides of the board with low-melting solder as it moves continuously in the tank, followed by jet-spray rinsing of the excess solder in glycerin.



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- 84 -



USSR

UDC 621.762.001

ABARBANEL', Z. I., SAVITSKIY, S. Ye., URODOV, V. I., and SADOVNIKOV, YE. G.

"Determination of the Spectrum of Particles of Fine Polydispersed Systems"

Tr. Vitebsk. tekhnol. in-ta legk. prom-sti [Works of the Vitebsk Technological Institute for Light Industry], 1, 1970, pp. 80-82, (Translated from Referativnyy Zhurnal-Metallurgiya, No. 1, 1971, Abstract No. 1G427 by V. KVIN).

Translation: A method and device have been developed for centrifugal photosedimentation analysis of polydispersed materials. A pure sedimentation liquid (SL) is placed in a cuvette, and a small quantity of another liquid with lower density is added, forming a thin buffer (starter) layer on the surface of the SL. When the suspension to be studied is introduced, the starter layer facilitates better dispersion of the particles on the surface of the SL and stabilizes the initial conditions of particle motion. The optimal analysis conditions, depending on the density and degree of dispersion of the material being studied, are achieved by proper selection of the SL, the dispersing liquid, and the rotating speed of the cuvette. 4 biblio. refs.

1/1

Marine and Shipbuilding

532.528

USSR

.BOOKS

YEGOROV, I. T., SADOVNIKOV, Yu. M., ISAYEV, I. I., BASIN, M. A.  
ISKUSSTVENNAYA KAVITATSIYA (Artificial Cavitation), Leningrad "Sudostroeniye"  
1971, 263 pp, illus, formulae, biblios, 1,850 copies printed

Results are given of research in supercavitation, natural and artificial ventilation of various lifting surfaces. The book does not pretend to be a full survey of research in this area of hydromechanics, but contains primarily the data obtained in recent years by the authors. It is intended for use by scientific associates and technicians working in the design offices and scientific research organizations in the ship-building industry, but can also be useful to students in the higher technical schools majoring in hydromechanics and marine engineering.

Contents

Pages

Foreword . . . . .	3-4
Chapter I. Physical Peculiarities of Natural and Artificial Cavitation (written by I. T. Yegorov) Describes and classifies cavitation phenomena, prospective applications of artificial cavitation, general problem and theoretical analysis of the phenomena, and methods of producing artificial gas cavities on surfaces . . . . .	5-22

USSR

YEGOROV, I.T., et al, ISKUSSTVENNAYA KAVITATSIYA (Artificial Cavitation),  
Leningrad 1971.

- Chapter II. Natural and Artificial Cavitation of Hydrofoils (written  
by M. A. Easin) discusses hydromechanics of supercavitating  
and ventilated hydrofoils . . . . . 23-98
- Chapter III. Controlling the Lift of Cavitating Foils. Ventilation of  
Bodies During Interaction With the Free Surface of the  
Water (written by I. T. Yegorov) Discusses methods of  
regulating the cavitating cavity in order to vary the  
hydrodynamic characteristics of lifting surfaces, and  
touches upon certain forms of natural and artificial  
ventilation of bodies during interaction with the free  
surface of the water . . . . . 99-156
- Chapter IV. Artificial Cavitation During Motion of a Body Near the  
Free Surface of the Water (written by I. I. Isayev)  
Gives results of theoretical and experimental research on  
the subject . . . . . 157-224
- Chapter V. Hydrodynamic Characteristics of Propellers During Arti-  
ficial Cavitation (written by Yu. M. Sadovnikov) Contains  
material on research on artificial cavitation of pro-  
pellers and on the interaction of propellers, operating  
under these conditions, in conjunction with the lifting  
elements of hydrofoil ships . . . . . 225-281

2/2

1/2 021 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SOLUBILITY OF YTTRIUM ALUMINATES AND GALLATES CONTAINING NEODYMIUM  
IN PBF SUB2.1.17PBO.0.35B SUB2 O SUB3 MELTS -U-  
AUTHOR-(03)-BAKRAOZE, R.V., KUZNETSOVA, G.P., SADOVNIKOVA, L.A.  
COUNTRY OF INFO--USSR  
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 82-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY, PHYSICS  
TOPIC TAGS--GARNET, YTTRIUM, ALUMINATE, GALLIUM, NEODYMIUM, CRYSTAL, SOLID  
SOLUTION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/0714 STEP NO--UR/0020/70/191/001/0082/0085  
CIRC ACCESSION NO--AT0124384

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--30OCT70

2/2 021

CIRC ACCESSION NO--AT0124384

ABSTRACT/EXTRACT--(U) GP-O-

ABSTRACT. THE SOLY. METHOD WAS USED TO DET. THE CONDITIONS FOR THE ISOMORPHOUS SUBSTITUTION OF AL BY GA AND OF Y BY ND DURING THE CRYSTN. OF Y-AL AND Y-GA GARNETS FROM MIXTS. OF THE CORRESPONDING OXIDES. THE SOLY. WAS DETD. AT 1100DEGREES BY THE ISOTHERMAL METHOD. THE SOLID PHASES WHICH ARE FORMED ARE SINGLE CRYSTALS OF (Y,ND) SUB3 AL SUB5 O SUB12, (Y,ND) SUB3 GA SUB5 O SUB12, AND Y SUB3 (AL,GA) SUB5 O SUB12 WITH THE GARNET STRUCTURE, WHICH DO NOT CONTAIN INTERSTITIAL TRACES OF THE SOLVENT. ALL OF THE SYSTEMS EXHIBIT THE FORMATION OF SOLID SOLNS. CRYSTALS OF SOLID SOLNS. OF ANY GIVEN COMPN. CAN BE OBTAINED ON THE BASIS OF THE SOLY. ISOTHERMS FOR THE GIVEN SYSTEM.

FACILITY: VSES. ZAOCH. MASHINOSTROIT. INST., USSR.

UNCLASSIFIED

SADOVNIKOVA, N. D.

UNCLASSIFIED

1/1/71

SECTION V

Sov. Zhurnal Akosmichesk. Biol.

Res-83

June 71

Name: Institute of Photosynthesis, Puchino  
Description:

(U) During this quarterly reporting period, one new article was located from the Institute of Photosynthesis in Puchino. On the basis of this 1970 article on plant growth, it was possible to associate three new persons with the Institute: S. G. Khruslova, V. I. Shmeleva, and Ye. F. Yegorova (34). To the present time it has not been possible to identify very many persons with the Institute; however, the complete listing of staff members identified to date is given below:

Staff of Photosynthesis

<u>Khilova, Ye. A.</u>	<u>Prokhorova, L. I.</u>
<u>Gavrilova, V. A.</u>	<u>Sadovnikova, N. D.</u>
<u>Khruslova, S. G.</u>	<u>Shmeleva, V. I.</u>
<u>Lobedev, A. I.</u>	<u>Sidorov, A. N.</u>
<u>Hakarov, A. D.</u>	<u>Stein, L. F.</u>
<u>Kol'yan, A. N.</u>	<u>Stolovitskiy, Yu. M.</u>
<u>Mukhin, Ye. N.</u>	<u>Surovtsov, V. I.</u>
<u>Obovlenishnikova, G. D.</u>	<u>Yegorova, Ye. F.</u>
<u>Pogova, N. B.</u>	<u>Yevlinskaya, V. B.</u>

11/1/71

USSR

UDC 911.3.616.986.7(470.313)

LITVINOVA, Z. I., VOLODIN, A. A., and SADOVNIKOVA, R. N.

"Leptospirosis Epidemiology in Ryazanskaya Oblast"

Nauch. tr. Ryazansk. med. in-t (Scientific Works of Ryazan Medical Institute),  
37, 1970, pp 81-85 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71,  
Abstract No 1.36.116)

Translation: Cases of this disease in humans are seen almost every year (data  
survey from 1949), with periodic peaks after 3-5 years. The etiological  
structure of the disease in humans as well as in cattle is dominated by the  
serotypes *L. grippotyphosa* and *L. pomona*. Natural foci are associated with  
forest zones, while anthropurgic foci are associated with forest steppe.

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--NATURAL NIDALITY OF ERYSIPELOID AT THE SOUTH EAST OF THE RYAZAN  
DISTRICT -U-  
AUTHOR-(04)-KHCHYAKOV, A.I., SADOVNIKOVA, R.N., FETISOVA, N.A., FETISOV,  
J.A.  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 3,  
PP 131-133  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--RODENT, TICK, ERYSIPELAX, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1478

STEP NO--UR/0016/70/000/003/0131/0133

CIRC ACCESSION NO--AP0109538

UNCLASSIFIED



2/2 008

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0109538

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE SASOV AND SHATSK REGION LOCALIZED AT THE SOUTH EASTERN PART OF RYAZAN DISTRICT (TSNA RIVER BASIN) THERE WAS ESTABLISHED A NATURAL NIDALITY OF ERYSIPELOID. A TOTAL OF 2,354 OF VARIOUS SPECIES OF RODENTS AND INSECTIVOROUS ANIMALS, 9,405 TICKS (DERMACENTOR PICTUS 4,375, IXODES RICINUS 5,030), AND 93 SAMPLES OBTAINED FROM THE OBJECTS OF THE EXTERNAL ENVIRONMENT WERE EXAMINED IN 1962-1968. EIGHT CULTURES OF ERYSIPELOTHRIX RHUSIOPATHIAE. VARIANT MURISEPTICUM WERE ISOLATED (IN 1963-4, AND IN 1968-4) FROM THE ORGANS OF 4 ARVICOLA TERRESTRIS L., 13 MICROTUS OECONOMUS, 16 MICROTUS ARVALIS PALL., ONE MYCROMYS MINUTUS, AND ONE RATTUS NORVEGICUS BERKEN.

UNCLASSIFIED

USSR

RYBACHENKO, V. F.; SADOVOY, A. A.

"Binding Energy of Light Nuclei and Nucleon-Nucleon Potentials"

Moscow, Yadernaya Fizika; October, 1970; pp 710-6

ABSTRACT: By means of the K-harmonics method the upper bound is given for the binding energy of a series of light nuclei (up to  $\text{Ca}^{40}$ ) for singlet and triplet even potentials  $V_{13}$  and  $V_{31}$  having a small repulsive core. The agreement of calculated values of energies and radii of the nuclei with the experimental values is considerably improved as compared with calculated values of these quantities for potentials without any core. The results obtained are improved by taking into account the repulsive  $V_{33}$  potential acting in states with an odd relative orbital moment of nucleons.

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USSR

UDC 669.71.053.4.094

AKSEL'RUD, G. A., ABRAMOV, V. YA., SEMENISHIN, YE. M., REYFMAN, E. D., SADOVOY, G. T.

"Kinetics of Extraction of Alkali from Sodium Ferrite"

Tr. Vses. n.-i. i proyekt. in-ta alyumin., magn. i elektrod. prom-sti  
(Works of the All-Union Scientific Research and Planning and Design Institute  
of Aluminum, Magnesium and Electrode Industry), 1970, No 70, pp 82-84 (from  
RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G143)

Translation: A study was made of the kinetics of extracting  $\text{Na}_2\text{O}$  under various  
temperature conditions during decomposition of sodium ferrite by water as  
applied to leaching bauxite cakes. The limiting stage of the given process  
is established, and values of the diffusion coefficients are determined.  
There is 1 table.

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- 87 -

1/2 024 UNCLASSIFIED PROCESSING DATE--11SEP70  
TITLE--COMPRESSION AND DISTRACTION IN RECONSTRUCTIVE SURGERY OF THE  
TUBERCULOUS COXITIS AND GONITIS SEQUELAE -U-  
AUTHOR--VERESHCHAGIN, A.P., KHEMELEVSKAYA, S.L., YAKOVENKO, E.I., TUMAROVA,  
V.I., SADOVOY, M.YA.  
COUNTRY OF INFO--USSR  
SOURCE--VESTNIK KHIRURGII IMENI I. I. GREKOVA, 1970, VOL 104, NR 3, PP  
56-60  
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--ORTHOPEDIC SURGERY, TUBERCULOSIS, BONE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1986/0634

STEP NO--UP/0589/70/104/003/0056/0060

CIRC ACCESSION NO--AP0102620

UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102620

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE PAPER AN EXPERIENCE WITH THE USE OF THE APPARATUS COMPRESSION AND DISTRACTION IN SURGICAL TREATMENT OF TUBERCULOUS COXITIS AND GONITIS SEQUELAE IS DESCRIBED. WITHIN THE RECENT 5 YEARS 115 PATIENTS HAVE BEEN OPERATED UPON. THE PECULIARITIES OF TECHNIC OF CORRECTIVE OSTEOTOMY WITH ELONGATION OF THE FEMUR ARE REPORTED. MAXIMUM ELONGATION OF ONE OF SEGMENTS DID NOT EXCEED 8-10 CM. THE MOST FREQUENT COMPLICATIONS WERE AS FOLLOWS: SUPPURATION AND CUTTING THROUGH OF NEEDLES INSERTED VIA THE ALIFORM PROCESS OF THE ILIAC BONE (13), PARESIS OF THE FIBULAR NERVE (5), DELAYED CONSOLIDATION IN 3 PATIENTS.

UNCLASSIFIED

Acc. Nr.:

H0051329

Ref. Code: UR 9012

JPRS 50051

New Series of Soviet-French Magnetospheric Observations Begins

(Excerpts: "On the Launch Pad -- Drifting Balloons," by Yu. Sadovoy; Pravda, 8 February 1970, p. 3)

On 5 February there began a new Soviet-French experiment on the study of outer space and the earth's magnetic field through the use of balloons and a broad network of ground observations. The experiment will last for almost two months.

Soviet and French scientists are successfully conducting a coordinated assault on the secrets of space physics, meteorology and communications. Using satellites, rockets, balloons and ground-based instruments, they are studying the nature of the auroras, the geomagnetic phenomena of radiowave absorption and ionospheric disturbances, as well as the effect of the solar wind on the magnetosphere and the earth's radiation belts.

This experiment, which begins the first stage of the "Omega" project, will be conducted simultaneously in a northern Soviet village near Karpogory in Arkhangel'sk Oblast' and on the French island of extinct volcanoes, Kerguelén (in the Indian Ocean). Taking part in the experiment will be

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Acc. Nr.: AN0051329

scientists of the Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, the Institute of Physics of the Earth, the Polar Geophysical Institute and Leningrad and Gor'kiy Universities and their colleagues from the French National Center of Space Research as well as the Center for the Investigation of Cosmic Radiation at Toulouse University, the National Center of Telecommunications Studies, and the Institute of Earth Physics and the Astrophysics Institute in Paris.

Candidate of Physicomathematical Sciences I. A. Zhulin, the supervisor of the Soviet part of the experiment, and his French colleague Francis Cambou have great hopes for obtaining interesting information from space. The solar wind acting on the magnetosphere causes magnetic storms, changes the ionization of the upper layers of the atmosphere and disturbs telegraph and radiotelephone communications. The capability of predicting space weather will prove useful in preventing emergency conditions on spacecraft and will also provide more reliable radio communications and navigation.

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REEL/FRAME

19811437

Acc. Nr.: AN0051329

This is the reason for sending 27 French and 10 Soviet balloons with a lifting capacity from 100 kilograms to three tons into the stratosphere (to altitudes of 35 - 40 kilometers) in February and March of this year. These inexpensive vehicles, equipped with special instruments, will scrupulously record even short-lived microbursts of X-radiation caused by the arrival of charged particles. By examining these bursts scientists will know what types of cosmic processes are taking place at that time. [4]

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19811438



AN 0029532

UR 9012

FROM: FBIS Daily Report, Soviet Union, 16 February 1970, Vol III, Nr 32,  
pp D 1-D 2

USSR

USSR-FRENCH MAGNETIC FIELD RESEARCH UNDERWAY

Moscow PRAVDA 8 Feb 70 p 3 L

[Article by TASS correspondent Yu. Sadovoy: "On the Launching Pad--Drifting  
Aerostats"]

[Text] A new Soviet-French experiment to study space and the earth's magnetic  
field with aerostats and extensive ground observations began on 5 February. The  
experiment will last approximately 2 months.

...A minute ago there was nothing to remind one of a launching. The giant polyethylene  
"snake" weighing 250 kilograms appeared to be lifeless. The gas pump hissed, and  
it began to stir as it rapidly filled with hydrogen. A little more gas, and the  
"snake" turned into a distended water drop. The last restraining collar has fallen  
away from the casing. In a second, at a command from a French scientist, the  
12,000 square meters of polyethylene with its container of scientific apparatus  
will soar upward.

19681136

AN0029532

Soviet and French scientists are successfully conducting a joint coordinated assault on the secrets of space physics, meteorology, and communications. With satellites, aerostats, rockets, and ground instruments, they are studying the nature of the aurora polaris, geomagnetic phenomena of radiowave absorption, ionospheric disturbances, and also the effect of the solar wind on the magnetosphere and the earth's radiation belts.

The present experiment, which initiates the first stage of the well-known Omega project, is being conducted simultaneously in a northern Soviet settlement near Karpogory in Arkhangelsk Oblast and on the French island of extinct volcanoes, Kerguelan (in the Indian Ocean). Taking part in it are scientists from the institute of terrestrial magnetism, the ionosphere, and radiowave distribution, the institute of the physics of the earth, the polar geophysical institute, Leningrad and Gorkiy universities, and colleagues of theirs from the French national space research center, the Toulouse University center for space radiation research, the national telecommunications research center, the Paris institute of the physics of the earth, and the astrophysical institute in Paris.

Why were Arkhangelsk Oblast and the subantarctic island of Kerguelan selected as the sites for the experiment?

"Because the ends of one and the same magnetic line of force meet at these points," the leader of the Soviet part of the experiment, I.A. Zhulin, explained. "Having

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available a unique pair of conjugate points joined by an invisible magnetic bridge, we are able to judge how the radiation situation changes in near-earth space and how active charged particles penetrate into the ionosphere."

Candidate of Physical and Mathematical Sciences I.A. Zhulin and his French colleague Prof Francois (Kambul) [as transliterated] are placing great hopes on obtaining interesting information from space. The solar wind influences the magnetosphere, disturbing it and causing magnetic storms, changing the ionization of the upper layers of the atmosphere, and disrupting telegraph and radiotelephone communications. An ability to forecast space weather would be useful for averting spacecraft accidents and also for providing more reliable radiocommunications and navigation.

This is why 27 French and 10 Soviet aerostats with carrying capacities ranging from 100 kilograms to three tons will be launched into the stratosphere (at an altitude of 35-40 kilometers) in February-March.

These inexpensive apparatuses, equipped with special instruments, will scrupulously record even short-duration microbursts of x-radiation which is caused by the arrival of charged particles. Scientists will be able to understand from the recorded bursts what space processes took place at this point in time.

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20

3/3

Pathology

USSR

UDC 616.993.12:616.935-07

AKHMOV, YU. A., and SADOVSKAYA, T. M., Chair of Infectious Diseases, Dagestan Medical Institute

"Present-Day Clinical Course of Amebiasis Combined With Bacillary Dysentery"

Baku, Azerbayzhanskiy Meditsinskiy Zhurnal, No 12, 1971, pp 65-69

Abstract: Of 547 amebiasis patients observed, the disease was combined with bacillary dysentery in 116 (20.9%). The diagnosis was based on clinical symptoms confirmed by laboratory tests. Various forms of *Entameba histolytica* were isolated from 9.14% of the patients and dysentery bacteria from 81.7%. The course of the mixed infection was mild in 60.5%, moderately severe in 24.9%, and severe in 14.6%; 5.1% died of complications and exhaustion. The average hospital stay was 29.4 bed days. All received comprehensive therapy, including emetine, contact amebicides, vitamins, and enemas containing gramicidin or antiseptics and most reserved. Major complications, the most serious being intestinal perforation (4.3%), occurred when dysentery developed after amebiasis was far advanced. The use of contact amebicides and bacteriostatic agents cannot by themselves prevent complications. Hence these patients should be followed up systematically and given several courses of emetine therapy.

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CHUDOVSKAYA, Ye. V.

MEDICINE

COLEBY

So: JPRS 53988  
03 SEP 1971

SITES OF INFECTION WITH HEMORRAGIC FEVER WITH A RENAL SYNDROME IN ONE OF  
THE FOET OF TUL'SKAYA OBLAST

Article by I. P. Povalishina, Ye. V. Sadovskaya, N. A. Shchenn and S. V.  
Kuz'menko, Institute of Polioepidemiology and Virus Encephalitis, Academy of  
Medical Sciences USSR; Moscow, Zhurnal Mikrobiologii, Epidemiologii i  
Immunobiologii, Russian, No 5, 1971, submitted 20 December 1969, pp 41-45

For the last 15 years (1951-1966) in a forest focus of hemorrhagic  
fever with a renal syndrome, situated in the Leningradskiy Rayon of Tul'skaya  
Oblast, systematic observations were made of the numbers of rodents  
(Sadovskaya, 1953) and the cases of human infection (Korchennov, 1953;  
Anil-epidemic measures also were developed and implemented (Korchennov, 1953;  
and others, 1954; Grodnovskaya, 1955; Shchenn, 1959; Shchenn and Korchennov,  
1962; Sadovskaya and Kuz'menko, 1967). The results indicated that rodents  
serve as carriers of the infection in nature and the greatest epidemiologi-  
cal danger for man is, obviously, contact with living bank voles --  
Clethrionomys glareolus Schreb (Chumakov and others, 1959).

Each year the majority of inhabitants remained in the focus from the  
end of April -- the beginning of May until September. Most of them lived  
in tents, placed in areas from which bushes had been cleared. Until 1958,  
the tents were placed upon earthen tent supports, later cement covered  
brick foundations were made. A few inhabitants lived in summer cottages  
without a basement, made from poles interlaced with brushwood, coated on  
both sides with clay and wallpapered inside. There were holes in the walls  
and large cracks between the floor boards. The attics were insulated with  
straw and oak leaves to provide greater warmth. Most of the houses were  
built near ravines, gorges and on plots of linden-oaks surrounded by under-  
growth.

The houses became readily infested with rodents. During the period  
of observation from 1951 to 1966, 5,031 small rodents of 17 species (Table 1)  
were caught in 24,226 night traps and the bank vole was the most numerous  
animal species caught in all trap locations -- from 21.6 percent to 71.5

USSR

UDC 616.61-002.151-036.21(470.312)

POVALISHINA, T. P., SADOVSKAYA, Ye. V., SHTERN, M. A., and KUZ'MENKO, S. V.,  
Institute of Poliomyelitis and Viral Encephalitis, USSR Academy of Medical  
Sciences

"Sites of Infection With Hemorrhagic Fever With a Renal Syndrome in One of  
the Foci in Tul'skaya Oblast"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 5, May 71,  
pp 41-45

Abstract: The Leninskiy rayon in Tul'skaya oblast is a forest-covered re-  
creational area which has many summer cottages and is periodically visited by  
nonimmune vacationers. Since it also is a focus of hemorrhagic fever with a  
renal syndrome, many zoological, parasitological, and epidemiological obser-  
vations were conducted there between 1951 and 1966. During these 15 years,  
a total of 5,031 small rodents of 17 different species were caught, with  
*Clethrionomys glareolus* the most numerous and representing 67.2% of rodents  
caught inside cottages. Annual outbreaks of the disease, involving a few to  
several hundred cases, are characteristically limited to small areas and occur  
in the spring and summer season, with peaks in June-August. Most people are  
infected inside the makeshift accommodations (cottages and tents) while tidying

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USSR

POVALISHINA, T. P. et al, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 5, May 71, pp 41-45

up the facilities or during sleep. No clear-cut correlation was found between the severity of the outbreak and the size of the rodent population. On the other hand, the duration of the rodents' reproductive period seems to be of great significance, since late autumn and winter breeding periods are preceded by the greatest outbreaks of hemorrhagic fever. Of the many preventive methods developed, rodent extermination in housing facilities is more effective than extermination in the rodents' natural habitats. The best preventive measure is construction of better-quality cottages, which are inaccessible to rodents.

2/2

- 28 -

USSR

UDC 621.396.6.72:621.791

KOPYLOV, Yu. N., GRISHIN, I. S., SADOVSKIY, A. A.

"On the Problem of the Stressed State of Joints in Diffusion Welding"

V sb. Progressivn. tekhnol. i novoye oborud. dlya proiz-va elektron. priborov (Progressive Technology and New Equipment for Making Electronic Devices—collection of works), Saratov, 1970, pp 85-87 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V310)

Translation: The authors discuss the possibility of reducing residual stresses caused by the difference in physicommechanical characteristics of materials in welded joints of dielectrics with metals. The results of a study of welded joints in quartz glass show that minimum residual stresses are observed when high-ductility metals are used (Ag and Cu) in thin layers; etching of the ground-glass surface immediately before welding also promotes reduction of the stress level. N. S.



1/2 012 UNCLASSIFIED PROCESSING DATE--13NOV70  
TITLE--CALCULATION OF THE ABSOLUTE ENERGY OF X RAY EMISSION TRANSITIONS OF  
A HYDROGEN CHLORIDE MOLECULE IN AN APPROXIMATION OF THE UNIFIED ATOM  
AUTHOR--(05)-NIKOLAYEV, A.V., MAZALOV, L.N., MURAKHTANOV, V.V., SADOVSKIY,  
~~A.P.~~ GUZHAVINA, T.I.  
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(1), 144-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--HYDROGEN CHLORIDE, X RAY EMISSION, ELECTRON SHELL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/0595

STEP NO--UR/0020/70/191/001/0144/0147

CIRC ACCESSION NO--AT0124282

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0124282

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENERGY OF EMISSION TRANSITIONS WERE STUDIED FOR THE HCL MOL. TAKING INTO ACCOUNT THE DISTORTION OF THE ORBITALS DUE TO HOLES. THE RESULTS OF CALC'S. FOR 7 POSSIBLE HOLE CONFIGURATIONS ARE TABULATED. IT IS CONCLUDED THAT THE ENERGY BOUND IN THE DISTORTION OF THE ORBITAL IS RATHER LARGE AND CANNOT BE IGNORED, PARTICULARLY FOR HOLES IN THE INTERNAL SHELLS. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

172 019

UNCLASSIFIED

PROCESSING DATE--300CT70

TITLE--X RAY EMISSION K SUBBETA SPECTRA OF SULFUR IN SOME SULFUR  
CONTAINING COMPOUNDS AND THEIR RELATION TO THE STRUCTURE OF THESE  
AUTHOR--(05)-NIKOLAYEV, A.V., MAZALOV, L.N., SADOVSKIY, A.P., GALTSOYA,  
E.A., MURAKHTANOV, V.V.  
COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 113-16, CHEM.

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--X RAY EMISSION, SPECTRUM, SULFUR, CARBON DISULFIDE, MOLECULAR  
ORBITAL, MOLECULAR STRUCTURE, PALLADIUM COMPOUND, COORDINATION  
CHEMISTRY, CHEMICAL BONDING, SULFIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1995/1588

STEP NO--UR/0020/70/190/005/1113/1116

CIRC ACCESSION NO--AT0116996

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0116996  
ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE X RAY EMISSION SPECTRA WERE REPORTED FOR CS SUB2 AND R SUB2 S WHERE R WAS SELECTED FROM ME, ET, BU, C SUB6 H SUB13, AND C SUB8 H SUB17. THE ELECTRON OS. WERE CALCD. AT THE S ATOMS IN THESE SUBSTANCES BY USING THE HUECKEL APPROXN. OF THE LCAOMO METHOD. FROM THE TABULATED DATA THE CHARGE ON THE S ATOM DECREASES IN COMPOS. IN WHICH IT IS POSSIBLE TO HAVE A PI BOND BETWEEN S AND THE ATTENDANT RADICAL. THE S CHARGE VALUES WERE AS FOLLOWS FOR R SUB2 S MOLS.: BU 1.975, ET 1.974, ME 1.974, PH 1.913; THE INDICES OF FREE VALENCE OF THE S ATOM WERE, RESP., 1.045, 1.045, 1.043, AND 0.844. SPECTRA WERE ALSO REPORTED FOR THE PRODUCTS OF EXTN. OF PDCL SUB2 BY R SUB2 S WHERE R EQUALS PH OR C SUB6 H SUB13. IN THESE CASES THE PD-S BOND FORMATION CHANGES THE NATURE OF THE EMISSION SPECTRUM DRASTICALLY RELATIVE TO R SUB2 S OWING TO ELECTRON REDISTRIBUTION AND THEIR COORDINATION WITH PD.

FACILITY: INST. NEORG. KHIM.,  
NOVOSIBIRSK, USSR.

UNCLASSIFIED

Microbiology

USSR

UDC 614.715-07:62-784.412.2

SADOVSKIY, B. F. and PETRYANOV, I. V., Institute of Physical Chemistry imeni  
L. Ya. Karpov, Moscow

"Use of FP Filtering Material in Impactors"

Moscow, Gigiyena i Sanitariya, No 5, 1973, pp 74-76

Abstract: Inertial precipitators called impactors are used to study the distribution of aerosol particles by size. The resulting data are the basis of distribution curves. FP [Petryanov's filters] filtering material is placed at the outlet of the impactors to determine the number of particles 0.5 to 1  $\mu$ m in diameter. A disk or strip of the filtering material is secured to a metal or glass backing before it is inserted into the compactor. It is hydrophobic, thin, and has a stable weight. Backing made of FP can be used to analyze radioactive aerosols, smoke employed in curing meats, and mists of acids as well as to evaluate the functioning of gas purifiers and respirators.

1/1

USSR

UDC 519.2

PARNEV, I. V., PETUKHOV, V. I., SADOVSKIY, G. A.

"Estimating the Errors of Empirical Distribution Laws of Random Processes"

Tr. Ryazan. radiotekhn. in-ta (Works of Ryazan' Radiotechnical Institute), 1971, vyp. 28, pp 248-261 (from RZh-Kibernetika, No 7, Jul 72, Abstract No 7V187)

Translation: Let  $x_i = x(i\Delta t)$ ,  $i = 1, \dots, n$  be successive readings of the stationary ergodic random process  $x(t)$  by which it is necessary to construct the estimate of the probability distribution density  $w(x)$  of the process  $x(t)$ . It is proposed that the digitalization step  $\Delta t$  exceeds the correlation radius of the process  $x(t)$ , and the probability density  $w(x)$  is an analytical function which depends on a finite number of parameters:  $w(x) = w(x, a_1, \dots, a_m)$ . The estimation error arising a) as a result of the limited nature of the sample and b) as a result of amplitude quantizing of the readings of the process  $x(t)$  are investigated separately.

1/1

- 9 -

USSR

UDC: 681.333:519.2

PETUKHOV, V. I., KOLOMIYETS, O. M., BERKUTOV, A. M., PROSHIN, Ye. M., SADOVSKIY, G. A., Ryazan Radio Engineering Institute

"A Static Analyzer"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 18, 1970, Author's Certificate No 271911, Filed 30 Dec 68, p 115

Abstract: This Author's Certificate introduces a static analyzer which contains an analysis level discriminator, a controlled step voltage generator, a generator which produces pulses to fill the intervals corresponding to the dwell period of a realization higher (lower) than the given level of analysis, an analysis time key circuit, a pulse frequency divider, a filler pulse counter, and a unit which introduces the number for the initial counter setting. As a distinguishing feature of the patent, the analyzer is designed for simplification in determining numerical characteristics. It contains an inhibiting logic circuit with the output of the frequency divider connected to one of its inputs while the second input is connected to the output of the pulse counter, whose set input is connected to the unit for introducing a number into the

1/2

USSR

PETUKHOV, V. I., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 18, 1970, Author's Certificate No 271911 Filed 30 Dec 68, p 115

counter. The output of the inhibiting logic circuit is connected to the input of the controlled step voltage generator, whose output is connected to the analysis level discriminator.



USSR

UDC 519.9

LIFSHITS, V. N., and SADOVSKIY, L. YE.

"Algebraic Models of Computers"

Moscow, Uspekhi Matematicheskikh Nauk, Vol 27, No 3, May-Jun 72, pp 79-125

Abstract: The article, which is essentially the revised text of papers delivered by the authors at the Joint Seminar on Applied Questions in Algebra of the Higher Algebra Chair of Moscow State University and the Applied Mathematics Chair of the Moscow Institute of Transportation Engineers, contains a review of the principal areas of research in the construction and analysis of algebraic models of digital computers (so-called mathematical computers). The first part of the article deals with models based on the scheme suggested by V. M. GLUSHKOV for data conversion from the standpoint of the theory of automata. A review is then given of works in which mathematical computers and programming theory are considered in terms of the theory of categories. Models of this type were first proposed by A. A. LYAPUNOV. The article concludes by offering a modified algebraic computer model, with allowance for the principal elements of constructing a computer, the possibility of

1/2

USSR

LIFSHITS, V. N., and SADOVSKIY, L. YE., Uspekhi Matematicheskikh Nauk, Vol 27, No 3, May-Jun 72, pp 79-125

imbedding programs into it, and questions of the functioning of a program imbedded into its memory. The proposed model permits consideration of a number of problems in digital computer theory in terms of transformation semigroups of a special form -- microprogram semigroups. The main difference between this model and the LYAPUNOV model is that a narrower range of elementary transformations is considered from the very start. These transformations are connected with the structure of operations on the memory and on the set of states of the cells of the mathematical computer. The proposed method of constructing an algebraic model is illustrated by the example of a simplified conditional computer possessing a number of characteristic features found in a real digital computer.

The authors thank A. A. LYAPUNOV, D. YA. LEVIN, and seminar participants for discussing the work and for useful recommendations.

2/2

- 70 -

USSR

UDC: 577.4

LIFSHITS, V. N., SADOVSKIY, I. Ye.

"Concerning Some Methods of Formal Description of Mathematical Machines"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Works of the Moscow Institute of Railway Transportation), 1971, vyp. 385, pp 155-249 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V427)

Translation: Basic concepts and results of the theory of discrete converters are presented in a common algebraic language (RZhMat, 1966, 11V268). A detailed description is given of approaches to modeling of actual computers which use completely different algebraic software (RZhMat, 1963, 10V363, 10V364, 5V435). The model proposed by the authors differs from the one given in RZhMat, 1963, 10V363 in placing stronger limitations on the computer memory and on the set of states of the memory cells. A very simple computer is described by using the notational system developed in the paper. V. Gorlov.

1/1

- 20 -

USSR

UDC: 577.4

LIFSHITS, V. N. and SADOVSKIY, L. Ye.

"Some Methods of the Formal Description of Mathematical Machines"

Tr. Mosk. in-ta inzh. zh.-d. transp. (Transactions of the Moscow  
Institute of Railroad Engineering) No 385, 1971, 155-249 (from  
RZh--Matematika, No 8, 1972, Abstract No 8V427)

Translation: Basic concepts in a single algebraic language and the results of the theory of discrete transformations are given (RZhMat, 1966, 11V268). A detailed description is given of the approaches to simulating real electronic computers using essentially different algebraic means (RZhMat, 1963, 10V363, 10V364, 5V435). The authors' proposed model differs from the known model (RZhMat, 1963, 10V363) by its more rigorous limitations on machine memory and on the set of memory cell conditions. With the use of this equipment, a description is given of the simplest computer. V. Gorlov

1/1

- 54 -

"USSR"

UDC: 536.628.3

VICHUTINSKIY, A. A., ~~SADOVSKIY, N. A.~~, Institute of Chemistry of Natural Compounds, Academy of Sciences of the USSR

"A Continuous-Flow Microcalorimeter"

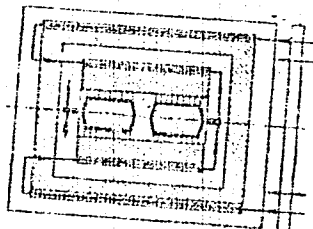
Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 7, Mar 72, Author's Certificate No 329416, Division G, filed 31 Jul 70, published 9 Feb 72, p 163

Translation: This Author's Certificate introduces a flow-through micro-calorimeter containing a detector within which a measurement cell is located with thermoelements. The calorimeter also contains a device for feeding in reagents. As a distinguishing feature of the patent, sensitivity and stability are improved by using an additional cell installed along the axis of the detector, which is made in the form of a thin-walled highly heat conductive cylinder equipped with a slot heat exchanger with symmetric input of reagents. This cylinder is placed inside a heat-compensating cylinder with high specific heat and thermal conductivity on which an additional symmetric slot heat exchanger is located. Each of the cells is equipped with radially arranged thermoelements of the semiconductor type connected differentially.

1/2

USSR

VICHUTINSKIY, A. A., SADOVSKIY, N. A., USSR Author's Certificate No 329416



2/2

- 116 -

USSR

SADOVSKIY, V. D.

UDC 620.018

"Structural Heritage in Steel"

Moscow, Strukturnaya Nasledstvennost' v Stali, Izd-vo Metallurgiya, 1973,  
208 pp

Translation of Foreword: For the past 30-40 years in a large number of investigations both here and abroad the kinetics and structural mechanism of phase transitions taking place during the cooling of steel from the region of the austenite state have been subjected to thorough and deep study. Much less attention has been paid to the study of transitions during the heating of steel. We can never attribute tremendous practical significance to the study of the structural mechanism of transitions during heating since the effectiveness of phase recrystallization is directly associated with the specific features of this mechanism; phase recrystallization is a phenomenon without thorough understanding of which it is impossible to construct either a correct theory or a scientific base for the practice of heat treatment of steel, and not only steel but other materials as well.

1/5

- 61 -

USSR

SADOVSKIY, V. D., *Strukturnaya Nasledstvennost' v Stali*, Izd-vo Metallurgiya, 1973, 208 pp

Metallography of the phase recrystallization during heating of steel still remains insufficiently developed. This book generalizes the results of investigations on studying the structural heritage carried out for a number of years at the Institute of Physics of Metals of the Ural Scientific Center of the Academy of Sciences USSR.

They were already partially clarified in the monograph entitled "Transitions During the Heating of Steel" published in 1954 [39]. However at that time the main attention was paid to the possibility of retaining (after refining treatment) traces of superheating in the fracture of steel, whereas now we mainly examine the consequences of superheating retained in the microstructure.

Metallographic study of such structural heritage in recent years has been substantially simplified by using reagents with additives of wetting agents that permit revealing the grain boundaries in the quenched state quite well.

2/5



USSR

SADOVSKIY, V. D., *Strukturnaya Nasledstvennost' v Stali*, Izd-vo Metallurgiya, 1973, 208 pp

The majority of microstructures given in the book (Figures 2a, 4a, 4b, 5-9, 12, 13, 15a, 15c, 16a, 17, 19-27, 33, 37, 38, 41, 46-48, 52-54, 56-57, 60, 62, 63, 64b, 68, 71, 72, 77, 78, 80, 88, 106, 107, 109-112) were revealed by etching in a saturated aqueous solution of picric acid with additives of the stiral powder "Novost'" or the washing liquid "Syntol".

In other instances the microsections were etched as a rule with 2-4-percent solution of nitric acid in ethyl alcohol.

Materials used in this book were the results of investigations by K. A. MALYSHEV, V. I. ARKHAROV and YU. D. KOZMANOV, N. M. RODIGIN, B. G. SAZONOV, L. V. SMIRNOV, B. K. SOKOLOV, G. N. BOGACHEVA, N. V. SHTISHEV-SKAYA, R. M. LERINMAN, S. I. IVANOVSKAYA, N. A. KOMPANETSEV, A. K. VARSKAYA, A. M. POLYAKOVAYA, M. M. NICHKOVAYA, V. G. GORBACHA, G. V. KAKHANEK, V. M. SCHASTLIVTSEV, YU. K. KALETIN, V. M. UMOVAYA, YE. A. FOKINAYA, I. P. SOROKIN, V. P. DROZD, A. V. OZHIGANOV, A. B. BUKHVALOV, and D. P. RODIONOV. Considerable assistance in conducting and shaping the investigations was given by A. F. KARTASHEV, K. K. NEKIPELOV, B. A. BOBYLEV, V. N. ZHURAVLEV and other colleagues. The author expressed his appreciation to them here. In addition to my

3/5

- 62 -

USSR

SADOVSKIY, V. D., *Strukturnaya Nasledstvennost' v Stali*, Izd-vo Metallurgiya, 1973, 208 pp

comrades at the Institute, constant cooperation in conducting the investigations, the results of which are discussed in this book, was given by the workers at the Laboratory of the Ural Plant of Heavy Machine Construction imeni S. Ordzhonikidze.

CONTENTS

	Page
From the Publisher.....	5
Foreword.....	7
Chapter One. Several Examples of Structural Heritage in Steel.....	9
Chapter Two. Structural Heritage During Rapid Heating of Quenched Steel.....	38
Chapter Three. Structural Heritage During Slow Heating of Steel.....	56

4/5

USSR

SADOVSKIY, V. D., Strukturnaya Nasledstvennost' v Stali, Izd-vo Metallurgiya, 1973, 208 pp

Chapter Four. Spontaneous Recrystallization of Austenite..	Page 80
Chapter Five. Heritage Appearing in the Fracture of Steel.	107
Chapter Six. Several Questions in the Structural Mechanism of the Process of Forming Austenite During the Heating of Steel.....	119
Chapter Seven. Structural Heritage During the Heating of Steel With Initial Perlite Structure.....	144
Chapter Eight. Recrystallization in Aging Alloys.....	158
Chapter Nine. About the Chernov b Point.....	164
Chapter Ten. Significance of Structural Heritage.....	171
Bibliography.....	200

5/5

- 63 -

USSR

UDC: 669.24'26:620.183

VINOGRADOVA, N. I., DAVYDOVA, V. V., MAKHANEK, G. V., PETROVA, S. N.,  
SADOVSKIY, V. D., Leningrad Polytechnic Institute imeni Kalinin

"Application of a Metallographic Method for Determination of the Depth of  
Surface Hardening in Nickel-Chromium Based Alloys"

Moscow, Zavodskaya Laboratoriya, No 11, 1972, pp 1359-1360.

Abstract: The influence of the chemical composition of alloys on the possibility of metallographic determination of strain hardening by decoration of dislocations with the carbide phase liberated upon aging is studied. The method can be used for nickel-chromium alloys of any composition with carbon contents of at least 0.05%. Hardening 20-30  $\mu$  up to several millimeters in depth is revealed.

1/1

- 7 -

SADOVSKIY, V. D.

metallurgy

NEW WAYS TO STRENGTHEN STEEL

[Article by Academician V. D. Sadovskiy; Moscow, Vestnik Akademi Nauk SSSR, Russian, No 11, November 1971, pp. 1073]

UDC: 669.18  
675.55.015  
675.702

During the last 10 to 15 years new methods of strengthening steel have been developed, which have increased the commercial strength by 25 to 50 percent, such as from 200 to 300 kg/cm<sup>2</sup> in tensile strength. These methods are based on combining mechanical working and heat treatment. These as plastic deformation (work hardening) and heating-quenching (martensitic transformation), plastic deformation and aging, or on the contrary aging and plastic deformation, quenching and subsequent plastic deformation, etc. An entire family of combined strengthening methods are known: they are given the designation LMT (low-temperature thermomechanical treatment), HTT (high-temperature thermomechanical treatment), MT (mechanicothermal treatment), MTT (thermochemical treatment), etc.

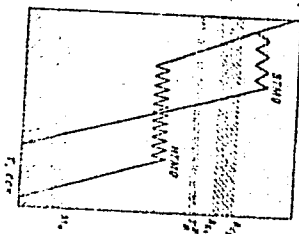


Figure 1. Diagram of high-temperature (HTT) and low-temperature (LMT) thermomechanical treatment.  $T_p$  -- austenite recrystallization temperature

USSR

UDC 621.789:621.9.048:3.669.24'74

SADOVSKIY, V. D., MALINEN, P. A., and MEL'NIKOV, L. A., Institute of Metal Physics, Academy of Sciences USSR

"Effect of High Pressure and a Pulsed Magnetic Field on Martensite Transformation in Fe-Ni and Fe-Ni-Mn Alloys"

Moscow, Metallovedeniye, No 9, Sep 72, pp 30-37

Abstract: A study was made of the effect of high hydrostatic pressure and a pulsed magnetic field on the character of the austenite-martensite transformation in alloys with a sharply pronounced athermal or isothermal type of transformation. The alloys studied were:

N31	0.015% C	31.6% Ni	0.3% Mn
N24G3	0.05	23.6	3.3
N23G3	0.06	22.7	3.3
N23G4	0.045	22.8	4.0

It was determined that hydrostatic pressure, lowering the martensite transition temperature, does not alter the explosive nature of the martensite transformation in alloy N31. For the isothermal transformation (in alloy N23G3), hydrostatic pressure sharply decreases the transformation speed and causes a

- 31 -

USSR

SADOVSKIY, V. D., et al., Metallovedeniye, No 9, Sep 72, pp 30-37

lowering of the kinetic maximum temperature. Previous plastic deformation does not lower the temperature interval of transformation in alloy N31 but strongly decreases the magnitude of the first and subsequent bursts. In Fe-Ni-Mn alloys, prior plastic deformation, suppressing the isothermal transformation, lowers the volume of athermal transformation in the magnetic field very little. Tempering of austenite suppresses isothermal transformation but does not affect the athermal transformation activated by the pulsed field. 10 figures, 1 table, 15 bibliographic references.

2/2

USSR

UDC: 669.14.018.44:620.18

SADOVSKIY, V. D., PETROVA, S. N., MAKHANEK, G. V.

"A Special Type of Separation of the Carbide Phase During Aging of KhN77TYuR Alloy"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 12, 1972, pp 5-7.

Abstract: This work studies the peculiarities of intragrain separation of chromium carbides during aging of KhN77TYuR commercial alloy. Specimens 20 mm in diameter and 10 mm high were heated at 1080, 1150 and 1200°C, then cooled in water, in air and with the furnace, after which they were aged at 700-900°C for several minutes to 30 hours. This was followed by structural studies with optical and electron microscopes. The data presented show that in this alloy the chromium carbide  $\text{Cr}_{23}\text{C}_6$ , having an identical face-centered cubic lattice with the matrix, but with three times greater lattice parameter, can develop at dislocations during aging and separate within the grain. With high dislocation density, the carbide phase decorates the dislocations, allowing the dislocation structure of the alloy to be studied on an optical microscope.

1/1



USSR

UDC 533.697

AMARANTOVA, I. I., SADOVSKIY, V. S., TAGANOV, G. I., SHUSTOV, V. I.  
"Experimental Study of Total Pressure Loss in Turning a Supersonic Flow  
Through a Large Angle in Curved Channels"

Uch. zap. Tsentr. aero-gidrodinam. in-ta (Scientific Notes of the Central  
Aerohydrodynamics Institute), 1971, Vol. 2, No. 2, pp 11-17 (from RZh-Mekhanika,  
No 12, Dec 71, Abstract No 12B575)

Translation: The results of an experimental study of velocity fields and total pressures at the output of curved channels of great length are presented. Three channels with circular and rectangular cross sections were investigated. The expansion of the channel with circular cross section was 18 calibers of the internal cross section (the channel expanded slightly along the flow) and was approximately 22 calibers for the plane channel (length relative to height of the input cross section). The flow turned through an angle of 80° in the channel with circular cross section and through 72° in the channels with rectangular cross section. The ratio of the sides in the channel of rectangular cross section was 3.7. The studies were conducted for a flow rate at the input

1/2

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SADOVSKIY, V. S., Moscow

"On Vortex Zones in a Potential Flow With a Discontinuity in the Bernoulli Constant at the Boundary"

Moscow, Prikladnaya matematika i mekhanika, No. 5, Sep/Oct 71, pp 773-779

Abstract: The "adherence" problem when there is a discontinuity in the Bernoulli constant is solved for flow without rigid boundaries. This corresponds to the case of infinitely large Reynolds numbers and special boundary conditions in the separation zone. The solution is given in an exact formulation. First considered is the problem of "adherence" in liquid flow lines of a vortex flow of an incompressible fluid which occurs in a certain finite region with a potential flow surrounding it, when the Bernoulli constant undergoes a discontinuity of the given magnitude at the line of flow separating them. A solution for the current function is obtained in the form of integrals containing two unknown functions: the contour of the vortex region and the intensity of the vortex sheet. A system of two nonlinear integral equations was obtained to determine these values. Some results of computer calculations are given.

1/1

USSR

SADOVSKIY, V. S., TAGANOV, G. I., Moscow

"Three-Dimensional Supersonic Flow With Heat Supply and Flow Deflection"

Moscow, IAN SSSR, Mekhanika Zhidkosti i Gaza, No 6, Nov/Dec 70, pp 121-125

Abstract: At high supersonic speeds, the flow per second of the air mass which takes part in creating thrust becomes comparable to the mass deflected beneath the wing. This paper deals with a certain limiting case of combining the processes of thrust and lift. In view of a number of properties of the corresponding three-dimensional flow with heat supply and deflection of the stream acting on the body, the aerodynamic forces are determined from one-dimensional equations of gas dynamics, although finding the shape of the body involves plotting two flows close to axisymmetric.

1/1

Gerontology

USSR

SADOVSKIY, Ye.

"For the Prolongation of Human Life"

Minsk, Sovetskaya Belorussiya, 23 Dec 70, p 4

Abstract: The staff of the Gerontology Sector of the Academy of Sciences Belorussian SSR includes groups of biochemists, physiologists, endocrinologists, and other scientists engaged in the study of the aging process. There is a laboratory and a vivarium for experimental research. Such problems as the mechanism of aging, the laws which govern the aging process and the tempo of aging, and metabolic and other functional shifts which take place in the aging organism are being investigated. As a result of these experiments, the concept has now been formulated that the accumulation of metals in the organism with age is one of the most important factors in the development of the aging process. An important contribution to the research activities is the angiotensiotonograph, an apparatus designed by workers at the Sector. With the aid of this apparatus it is possible to record venous and arterial pressures, vascular tonus, blood circulation rate, and other important indices. The apparatus also permits early

1/2

USSR

SADOVSKIY, Ye., Sovetskaya Belorussiya, 23 Dec 70, p 4

detection of cardiovascular diseases, determination of the nature of the effect of certain drugs on the organism, and the exercising of control over the treatment of diseases. Of considerable interest are social and demographic investigations in which the age structure of people in the cities and oblasts of Belorussia is being studied. Preliminary data based on the 1970 census have established that the oldest people are presently found in Gomel'skaya and Vitebskaya Oblasts and in Rechitskiy Rayon. The research activities now being conducted at the Sector will help scientists in their struggle for the prolongation of human life.

2/2

- 38 -

USSR

UDC 616.212-018.73-091-02:615.285.7.025.1

SADRIYEVA, R. V., Candidate of Medical Sciences, AVSALYANOV, I. F., Candidate of Medical Sciences, and GLEBKASHANSKAYA, N. V., Medical Institute imeni' Academician I. F. Pavlov

"Dynamics of Morphological Changes in the Nasal Mucosa During Prolonged Peroral Administration of Small Doses of Hexachloran"

Moscow, Vestnik Otorinolaringologii, No 3, May/Jun 71, pp 92-95

Abstract: Since organic compounds of chlorine are widely used as pesticides and herbicides, the toxicity of hexachloran to nasal mucosa was investigated on rabbits. The animals were given daily peroral doses of hexachloran (1 mg/kg body weight) for up to 104 days. They were serially sacrificed at various time intervals, and the nasal mucosa was investigated microscopically. No changes were observed during the first 40-50 days. Then, evidently due to weakened resistance, vascular disorders such as congestion and swelling of vascular in mucosal dystrophy and acute catarrhal rhinitis. On the 90th day of poisoning, exudative processes were diminished and regeneration began, leaving only small pathological changes on the 104th day. The results indicate that hexachloran is a very toxic chemical and that protective masks must be worn when working with this compound.

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SANDULLOVA, A.V.

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14-7. EFFECT OF GROWTH CONDITIONS ON THE STRUCTURE AND MORPHOLOGY OF  
PENTANT CRYSTALS OF SILICON CARBIDE  
(Article by A. V. Semakova, N. I. Gerasimova, and V. I. Gerasimov)

111 Stipendium po. Pinesesam Rosta i Slezce Poluproduktivnykh Krest'ianov ?  
Plenck, Rostslan, 12-17 June 1972, p 124]

A study was made of the dependence of the structure and morphology of filamentary silicon carbide crystals on the growth conditions and by the method of thermal reduction of methyl trichlorosilane and molybdenum substrates.

For optical values of the concentration of the initial substance in the hexamene, the temperature intervals of obtaining crystals in the solid and hexamene variations were defined, and it was established that the addition of defined impurities stimulates the growth of spherulitic crystals and the formation of the 2H polymorph with the hexagonal structure of urea at temperatures of 1,400–1,550°C.

The variation in the faceting of the crystals with variation of the structural version is discussed. By using the studies on polarization of the sections of the crystals corresponding to longitudinal and transverse light scattered both for the crystals of different forms, the internal structure cross liquid-solid transition mechanism in the 2H polytype with which the characteristic fibrous elementary crystallization mechanism in a number of published papers on the growth of the silicic carbide. On the basis of the research, the variation of these phenomena and not a direct proof of the growth of crystals by the vapor-liquid-solid state mechanism.

SANDELOVA, A.V

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XIII-3. CHARACTERISTIC FEATURES OF THE GROWTH OF ALLOYED SEMICONDUCTORS THIN LAYERS FROM A MELT IN THE GAP BETWEEN SUBSTRATES OF DIFFERENT NATURE.  
[Article by A. V. Samoilova, T. Rudoi?, A. ...  
Sivchenko, L'vov ...]

The prospectiveness of the methods of testing by different authors is discussed.

One of the most important methods of manufacturing semiconductor thin films with controlled properties is the process of epitaxial growth of a semiconductor thin film with previously given parameters and structure. The solution of this problem is connected not only with studying the structure, but also with the development of methods of obtaining allowed semiconductor thin films of the required properties and their subsequent annealing in their after manufacture.

At the present time the results of these studies performed on cadmium antimonide are piecemeal. It is demonstrated that the process of crystallization and, correspondingly, the nature of the admixture distribution in the semiconductor thin layers is determined by the form of the surface and the thermal conditions of cooling of the growth front. From the theoretical analysis of the crystallization it is determined between the conditions of manufacturing the semiconductor thin layers (the cooling rate, the temperature with respect to the peritectic point of the melt, the morphology and the nature of the phase interface in the layer, additional supercooling of the melt at this interface). In addition, the optimal conditions of crystallization of the melt at this interface and the occurrence of significant concentration supercoolings. Possible means of obtaining allowed semiconductor thin layers from previously allowed supercoolings and when alloying the melt in the process of manufacturing semiconductor thin layers are demonstrated. In the example of CdSe a study was made of the distribution of the Ag, Te, Se and Ga admixtures in mono-crystalline layers manufactured under various conditions of crystallization. The optimal conditions of manufacturing monocrystalline semiconductor layers of CdSe and other semiconductors with the properties of crystallization, growth and homogeneous distribution of the admixture in the volume are determined.



USSR

USIPBAYEV, S., KARPYKOV, S. S., and SADVAKASOVA, K. A.

"Mathematical Model of Evaluation of Control of Transport Flow in System with Unreliable Channels"

Alma-Ata, Vestnik Akad. Nauk Kaz SSR, No 9, Sep 70, pp 60-63

Abstract: Statistical processing of data on the mine pit-transport-dump system for the Sarbayskiy open pit mine has shown that the volume of arrival of units in the system is well described by a Poisson distribution, while the servicing time required follows an exponential distribution. Consequently, the principal criteria can be defined using formulas from the theory of operations research, taking into consideration the random nature of change of the parameters of the system. The criteria of the system were calculated using a Minsk-22 computer. A nomogram was constructed on the basis of the results to determine the idle time of excavator units and trains, depending on the effectiveness factor. In order to eliminate some of the idealization, the Monte-Carlo method was used for further calculation. A flow chart is presented for an algorithm allowing determination of the optimal quantity and form of information required for realization of an automatic control system considering economic criteria corresponding to the level of control of the system used.

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- 101 -

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UNCLASSIFIED

PROCESSING DATE--20NOV70

TITLE--EXPANDED PLENUM OF THE CENTRAL SCIENTIFIC METHODS COMMISSION FOR  
HEALTH STATISTICS ASSOCIATED WITH THE MINISTRY OF HEALTH USSR, 16-18

AUTHOR--SAUVOKASOVA, YE.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SOVETSKOYE ZDRAVOOKHRANENIYE, RUSSIAN, NO 5, 1970, PP  
85-88

DATE PUBLISHED--70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PUBLIC HEALTH, STATISTICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3005/0685

STEP NO--UR/0753/70/000/005/0085/0088

CIRC ACCESSION NO--AP0132802

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132802

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PRINCIPAL REPORT DISCUSSED AT THE PLENUM WAS PRESENTED BY THE ALL UNION SCIENTIFIC RESEARCH INSTITUTE FOR SOCIAL HYGIENE AND PUBLIC HEALTH ORGANIZATION IMENI N. A. SEMASHKO. ITS TOPIC WAS "TASKS, METHODS, AND ORGANIZATION OF MULTIDISCIPLINARY STUDY OF THE HEALTH OF THE POPULATION OF THE USSR WITH RESPECT TO THE 1970 CENSUS". THE SPEAKER (V. K. OVCHAROV, CANDIDATE OF MEDICAL SCIENCES, DIRECTOR OF THE HEALTH STATISTICS DEPARTMENT) REPORTED THAT AFTER A STUDY OF THE TOTAL MORBIDITY RATE CONDUCTED IN 1958-1959 BY USING THE MATERIALS OF THE PUBLIC'S REQUESTS FOR MEDICAL SERVICE IN THE COURSE OF A SINGLE YEAR, DATA IN THE PHYSICIAN'S DEATH CERTIFICATE, INFORMATION ON HOSPITALIZED PERSONS, ETC., HAVE ALSO BEGUN TO BE USED FOR THE SAME PURPOSE. PARTICULAR NOTE SHOULD BE TAKEN OF THE STUDY OF MULTI ANNUAL (3-5 YEARS) VISITS TO PHYSICIANS BECAUSE OF CHRONIC ILLNESSES AND SUPPLEMENTATION OF THE RELEVANT MATERIALS WITH THE DATA OF MEDICAL EXAMINATIONS OF THE POPULATION. IT WAS DISCOVERED THAT RESULTS OBTAINED BY THE TWO METHODS ARE CLOSE IN A NUMBER OF CASES.

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USSR

SADYGA, V. I. and KORABLEV, N. M.

"Estimation of Information Content of Variables During Identification of a Complex Object"

Pribory i Sistemy Avtomatiki. Resp. Mezhd. Temat. Nauch.-Tekhn. Sb. [Automation Devices and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection], 1973, No 27, pp 67-70 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V202)

Translation: The problem of selection of the most significant factors, information on which would be sufficient for defective control of a dynamic object, is studied. The information measure of uncertainty of the process of floatation based on two control channels is calculated.

Author's view

1/1

- 21 -